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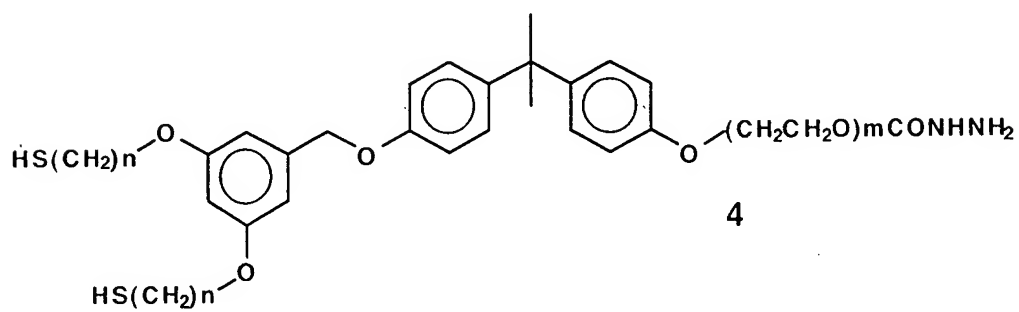
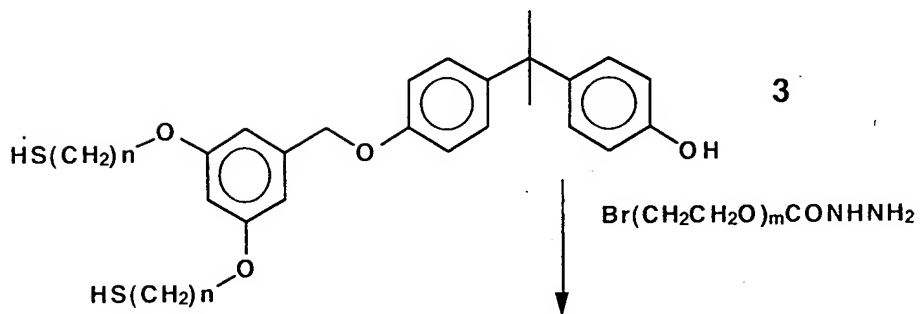
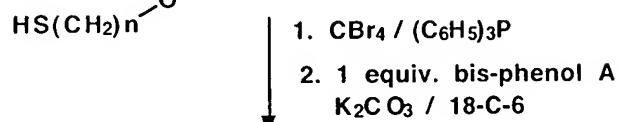
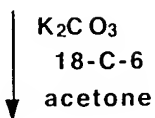
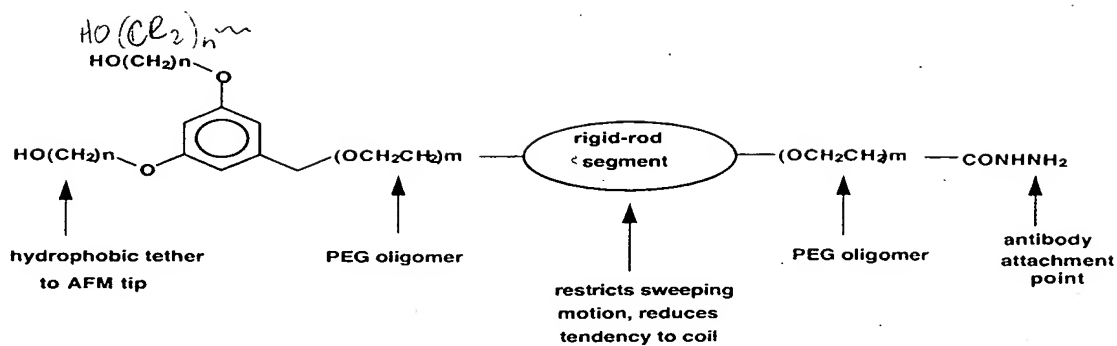
Oc1cc(O)ccc(CO)c1

Figure 2



If  $\text{HS}(\text{CH}_2)_n$  replaces  $\text{HO}(\text{CH}_2)_n$  attachment can be at gold substrate surface

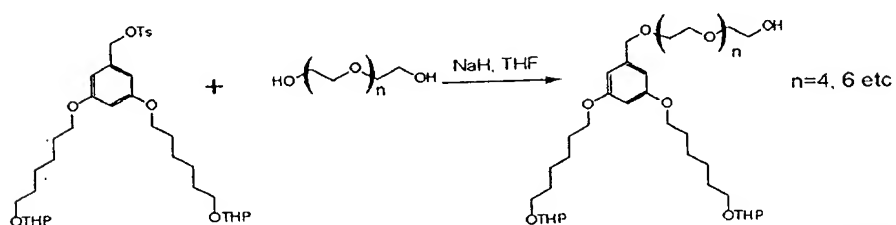
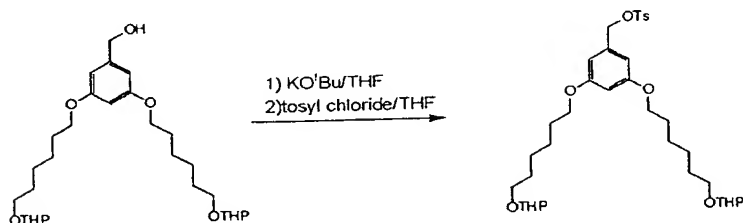
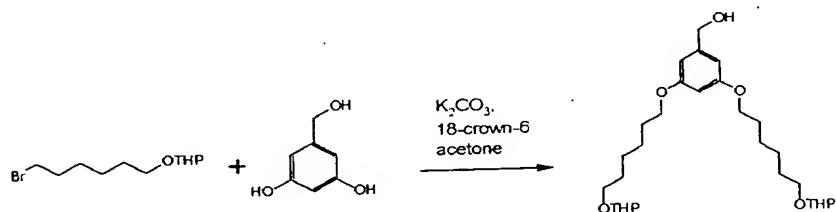
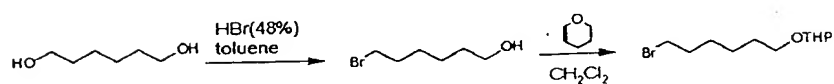
If  $(\text{EtO})_3\text{Si}(\text{CH}_2)_n$  replaces  $\text{HO}(\text{CH}_2)_n$  attachment can be at glass/quartz surface

If terminus is a hydrazide then oxidized carbohydrate is used for coupling to glucosylated protein

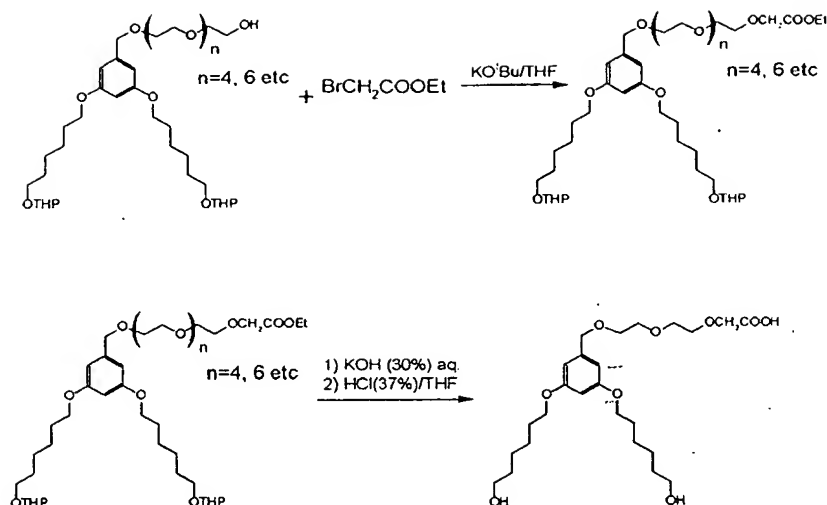
If hydrazide is replaced with  $-\text{COOH}$  then standard random coupling to lysines is used

# Reactions for the preparation of the AFM tether molecules

Figure 3  
A

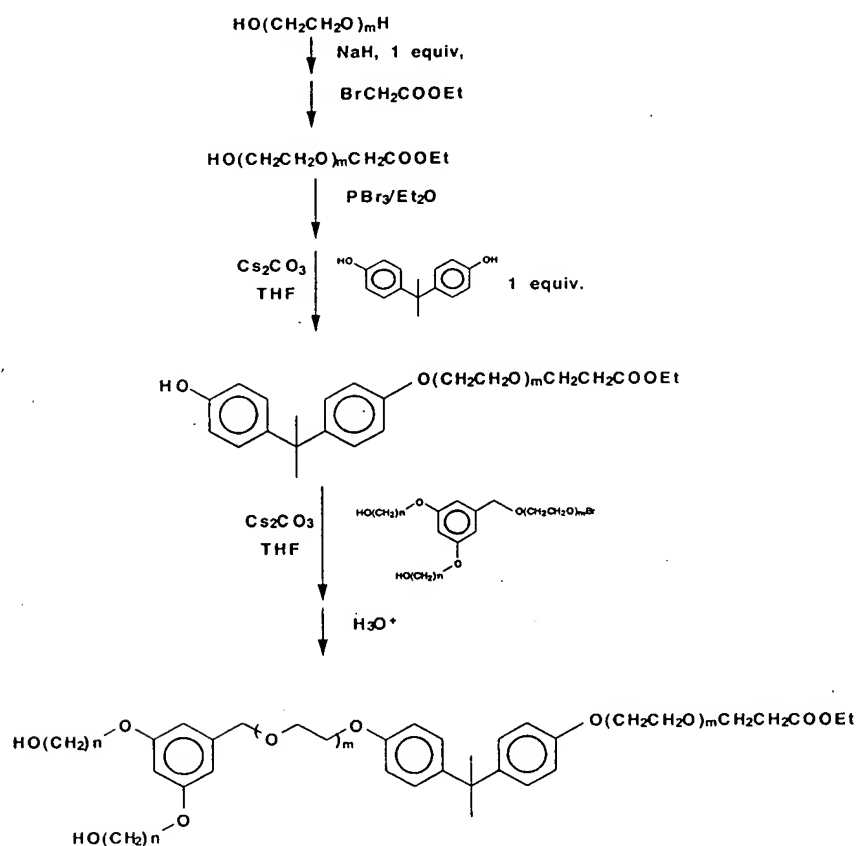


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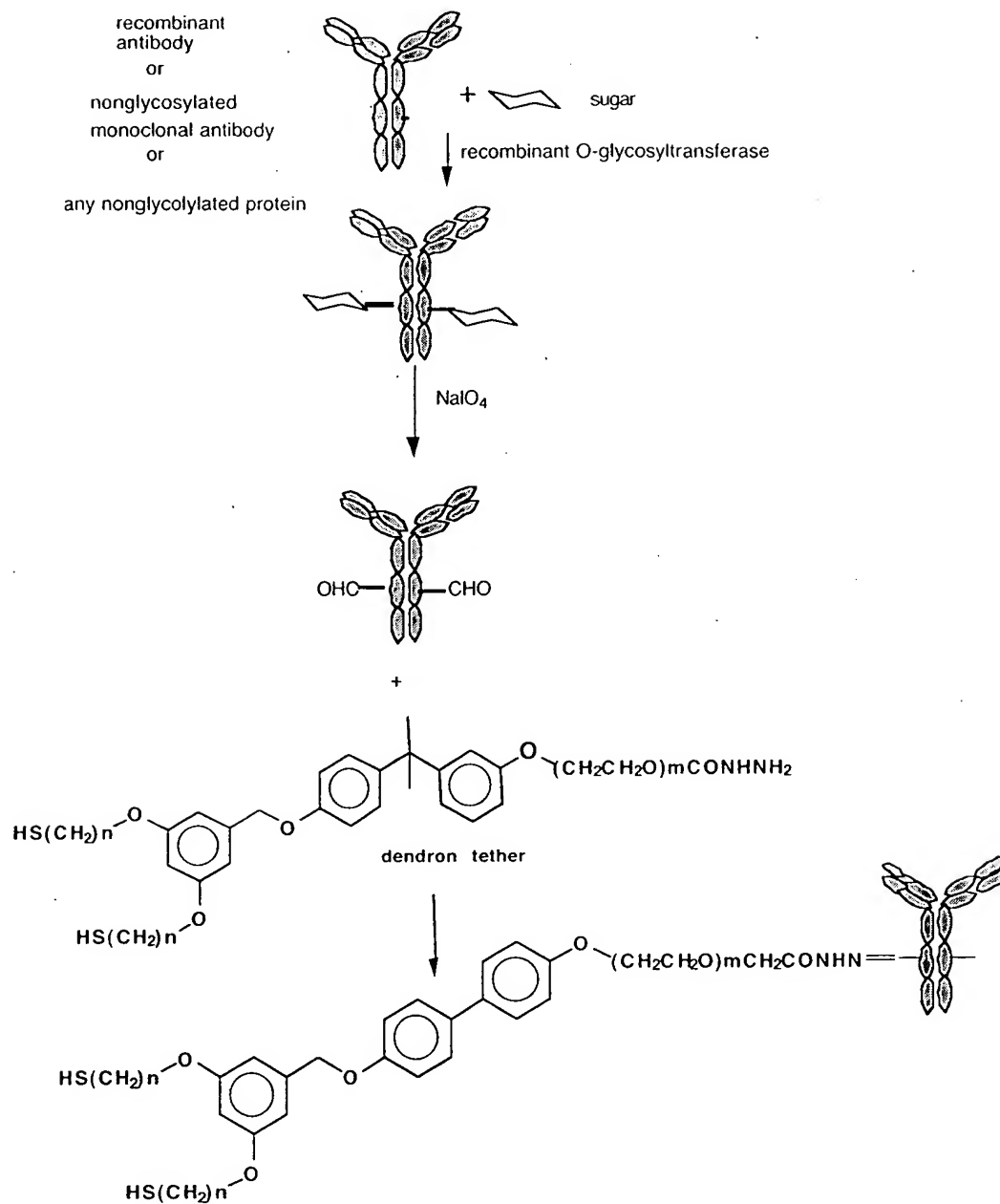
**Scheme 1: Synthesis of carboxy terminated AFM tether with 2 points of attachment**

Insertion of rigid rod elements can be accomplished by the following methodology:

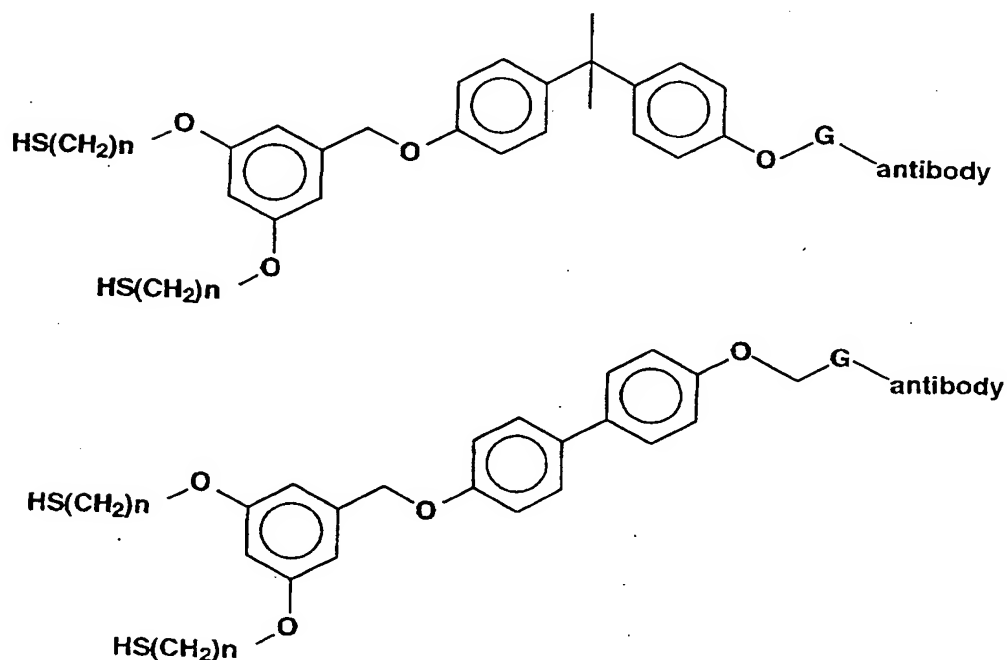
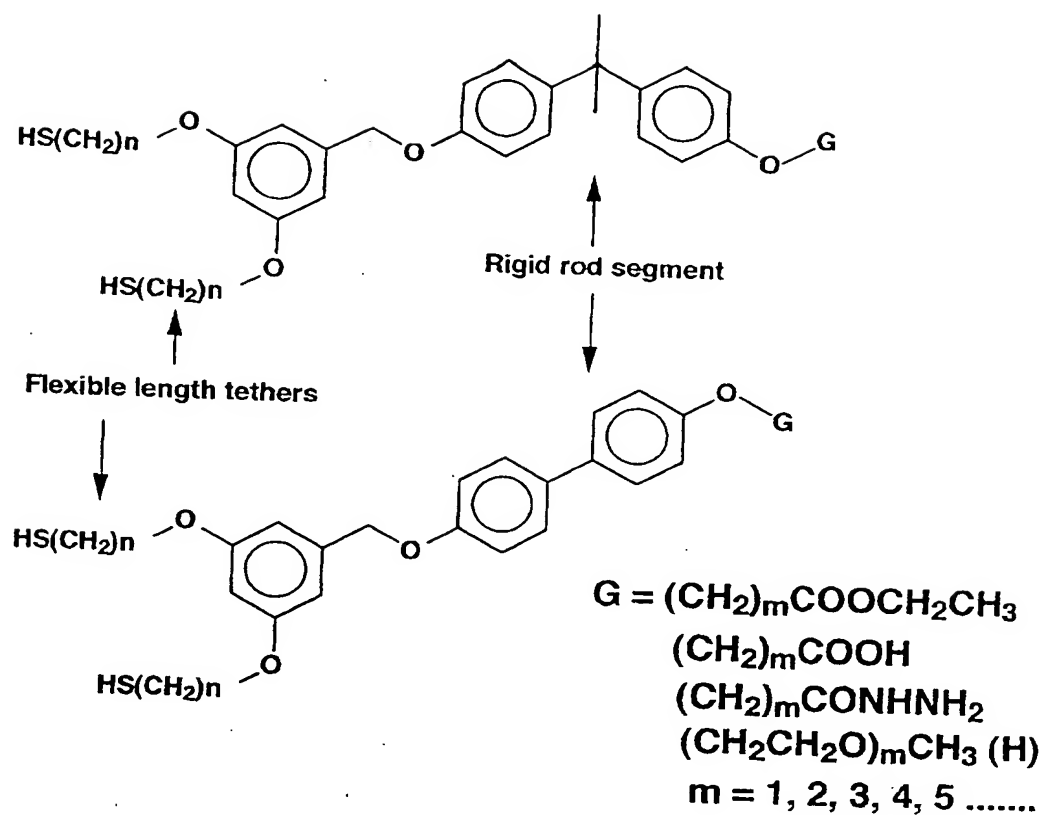


**Scheme 2: Representative synthetic strategy for insertion of rigid rods.**

7 < 4



Synthesis of antigen-specific capture agent tethered to a dendrimer functionalized for self-assembly on a gold surface



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Figure 6

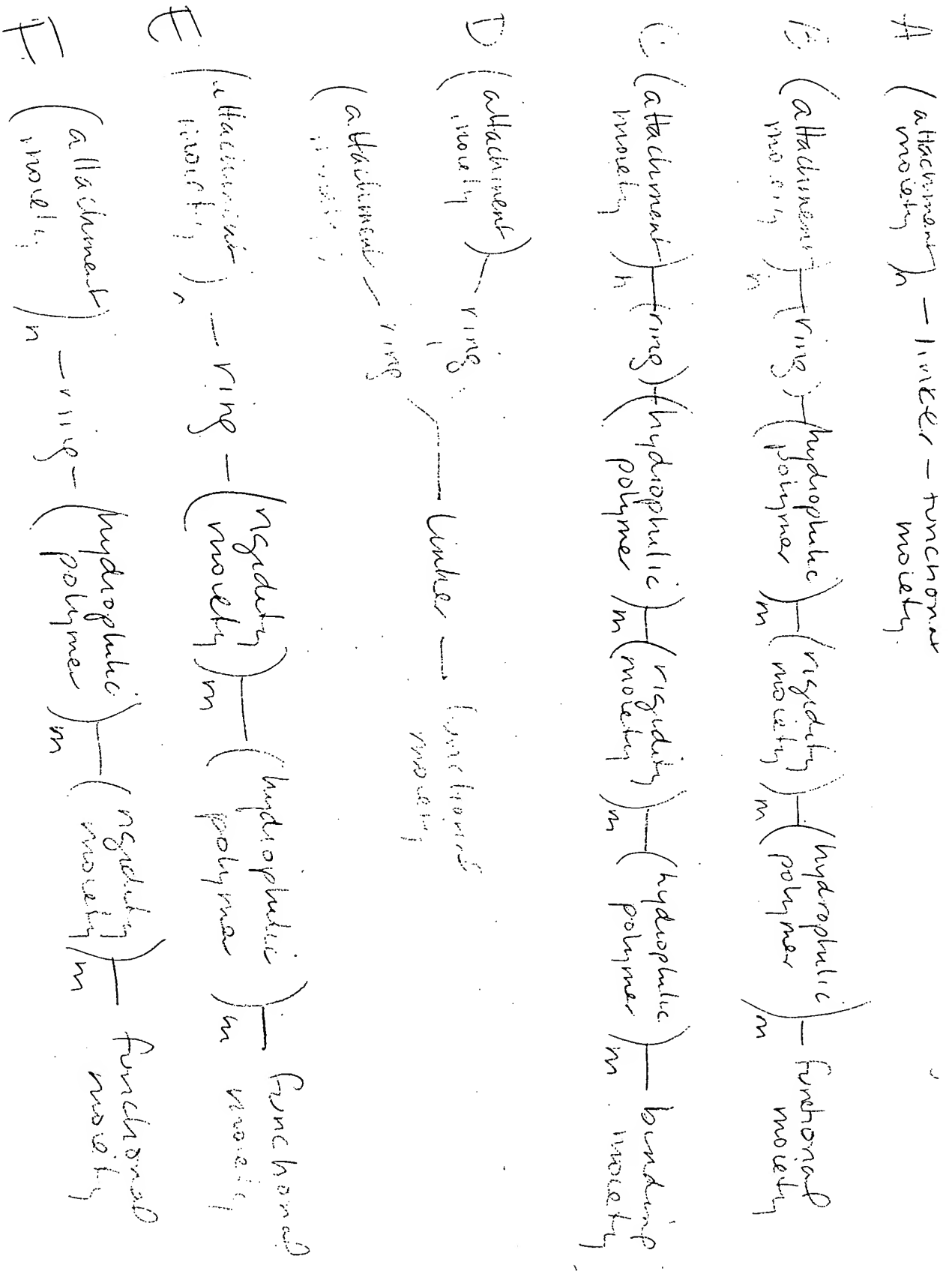
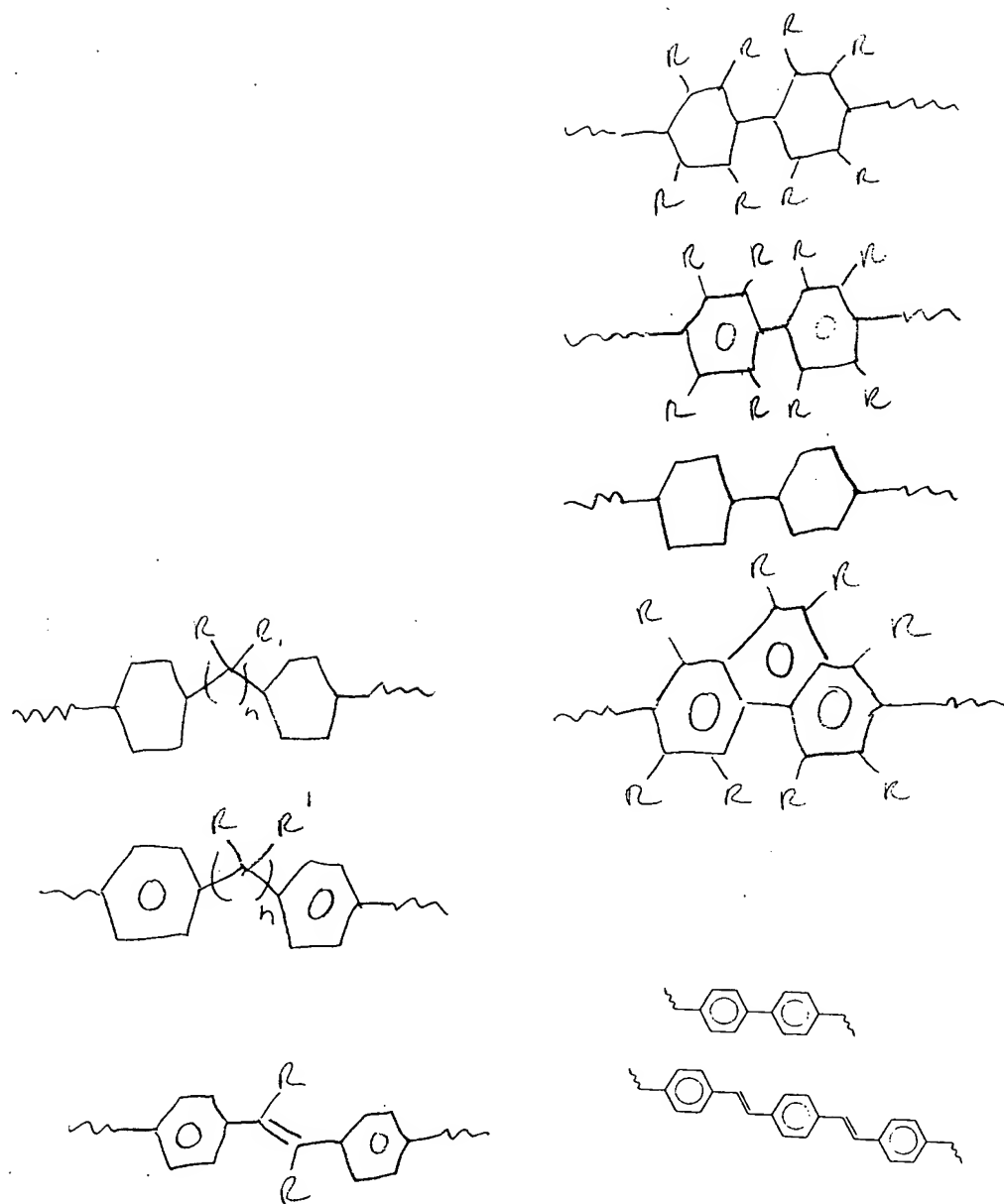




Figure 7



Potential rigid rod segments